



2013 Flood Hazard Reduction Tour



Photo Courtesy of The Chronicle

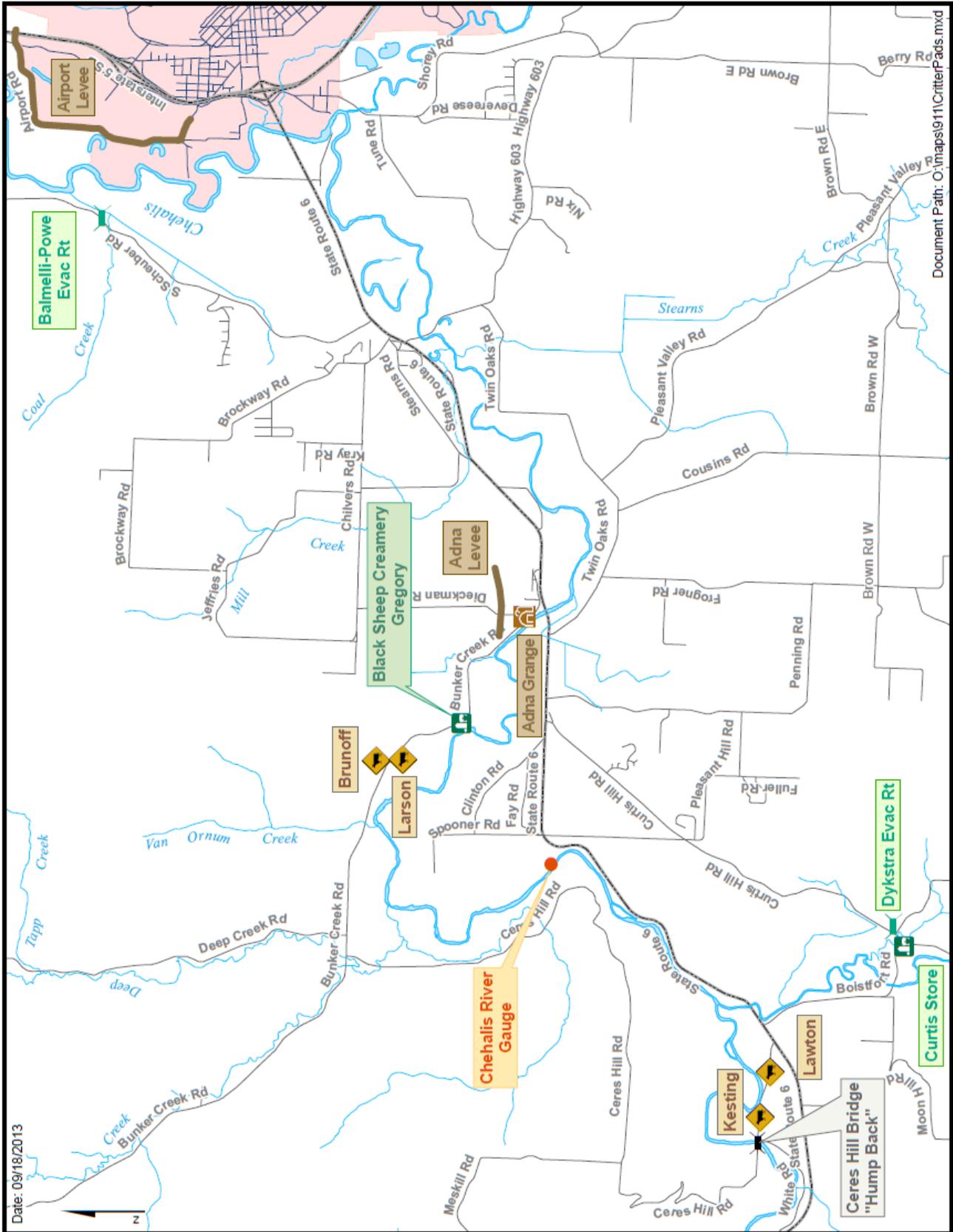
September 19, 2013
1 to 4 p.m.



Photo Courtesy of The Chronicle

Tour Schedule

- 1:00 pm** **Walk to Adna Levee- Tim Elsea, Lewis County Public Works Director**
- Critter Pad (Brunoff Property)- Butch Ogden, WA Conservation Commission
Bob Amrine, Lewis County Conservation District**
- Drive by Lawson Property and Black Sheep Creamery
- Escape Route (Dykstra Property)**
- Curtis Store – Nikki Wilson, Lewis County Conservation District
- Ceres Hill Bridge “Hump Back”- Tim Elsea**
- Drive by Kesting Critter Pad
- Adna Gages- Ken Frasl, Field Office Chief USGS
Andy Gendaszek, USGS**
- Airport Levee- Tim Elsea
Allyn Roe, Airport Manager**
- DOT Projects-Colin Newell, WSDOT**
- 4:00 pm** **Return to Adna Grange**



Date: 09/18/2013

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Adna Levee Project

Date of Funding Approval -- 07/19/2012.

Budget -- \$244,145.00

Description -- The project consists of cleaning out and restoring approximately 7,500 linear feet of the existing drainage pathway along the historic railway grade (now Willapa Rails to Trail System) and replacing culverts as necessary to provide historic levels of protection to the surrounding areas (Adna High School and surrounding households). Phase I consists of about 4,200 linear feet of channel clearing eastward from Bunker Creek Road. Phase I channel clearing is to occur outside of wetland areas. Phase II consists of protection of the levee low point, replacement of Dieckman Road culvert, and ditch grading. Project completed September 2013.



Flood Hazard Reduction Benefits -- The project would restore previously established drainage routes and provide additional flood protection for a concentrated group of residents, businesses, a fire station, a public park and a public school within the unincorporated Adna community.

Project Website -- https://www.ezview.wa.gov/site/alias_1748/overview/34397/overview.aspx

Critter Pads and Escape Routes



Photos Courtesy of The Chronicle

Date of Funding Approval – 9/06/2012.

Budget -- \$500,000.00

Description -- Critter pads reduce livestock mortality and economic loss to landowners and local communities. They provide an area elevated above the flood level to hold livestock and critical farm equipment during a flood event. A interested group of residents, business (has taken the lead to work with farmers to identify potential sites for critter pads in Lewis County. The Conservation District has contacted Thurston and Grays Harbor Conservation Districts and the Chehalis Tribe to see if there is interest for critter pads in these jurisdictions. In Lewis County, three critter pads are originally proposed for construction at farms along Bunker Creek Road (Gregory, Brunoff, Larson), two more at locations along the upper Chehalis River (Lawton, Kesting), one more at a location along the main stem Chehalis River (near City of Chehalis) and one at Curtis Hill (Dykstra evacuation route). Each of the critter pads require engineering design and permit approval by Lewis County. The pads range in size from 37 x 37 feet to 151 x 151 feet and the heights are from 5 feet to 15 feet.

Flood Hazard Reduction Benefits -- Reduction of livestock mortality and economic loss to landowners and local communities.

Project Website -- https://www.ezview.wa.gov/site/alias_1750/overview/34417/overview.aspx

Critter Pad Costs through August 1, 2013

John Brunoff

Lewis County Permit	\$1,139.32	
FEMA Permit	\$160.00	
Survey for FEMA	\$618.00	
Survey	\$1,290.00	
Construction	\$64,032.83	
Total		\$67,240.15

Bob Larson

Lewis County Permit	\$1,207.67	
FEMA Permit	\$160.00	
Survey for FEMA	\$618.00	
Survey	\$830.00	
Move Electric Service	\$954.03	
Construction	\$41,119.92	
Construction	\$52,301.52	
Cost Overrun	\$33,202.40	
Total		\$130,387.54

Brad Gregory

Lewis County Permit	\$1,044.84	
FEMA Permit	\$160.00	
Survey for FEMA	\$618.00	
Survey	\$698.50	
Construction	\$8,934.14	
Total		\$11,455.48

Terry Lawton

Lewis County Permit	\$1,201.67	
FEMA Permit	\$160.00	
Survey for FEMA	\$180.00	
Survey	\$438.00	
Lewis Co. Borrow Permit	\$1,426.37	
Alderbrook Quarry	\$409.30	
Ferguson culvert	\$168.48	
Grace Farms-seeding	\$8,105.00	
Chehalis Sand & Gravel	\$78,026.72	
Total		\$90,115.54

John Kesting

Lewis County Permit	\$1,201.67	
FEMA Permit	\$160.00	

	Survey for FEMA	\$180.00	
	Survey	\$438.00	
	NW Green	\$93,048.65	
	Total		\$95,028.32
Engineering			
	Salary and Benefits		\$20,155.80
District Costs			
	Salary and Benefits	\$28,367.35	
	Travel	\$1,354.92	
	Overhead	\$9,905.15	
	Total		\$39,627.43
			Total → \$454,010.26

Evacuation Route Costs through August 1, 2013

Pete Dykstra- 60 cows and 20 heifers

	Lewis County Permit	\$200.45	
	Cultural Resource	\$1,533.50	
	Construction	\$50,584.12	
	5120 ft. of fence		
	Total		\$52,318.07

Julie Balmelli-Powe

	Lewis County Permit	\$307.87	
	Cultural Resources	\$234.52	
	Construction	\$7,460.79	
	545 ft. of fence		
	Total		\$9,302.16

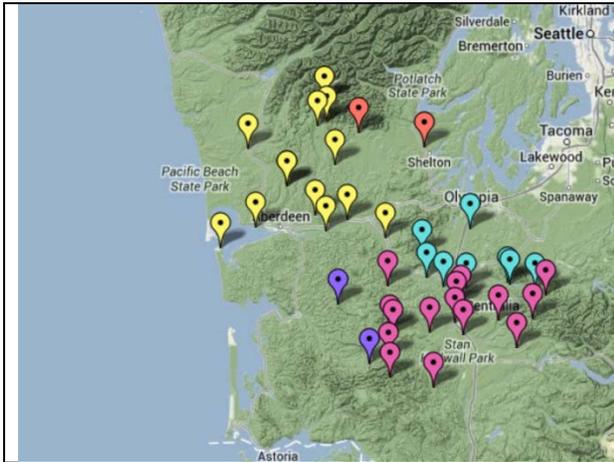
District Costs

	Salary and Benefits	\$5,554.24	
	Travel	\$234.52	
	Overhead	\$1,266.33	
	Total		\$7,055.09

Total → \$68,675.32*

*\$27,000.00 was provide by a CIG Grant for NRCS

Adna Gage



- ✓ 41 sites in Basin tied into Flood Warning System.
- ✓ Flood Authority funded installation and maintenance of ten gages.



www.chehalisriverflood.com

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CHEHALIS RIVER NEAR ADNA, WA				
Site Information				
Name:	CHEHALIS RIVER NEAR ADNA, WA			
Site ID:	12021800			
Latitude:	46.6258333			
Longitude:	-123.1005556			
Elevation:	0 feet			
Sensors				
Sensor ^	Type	Sensor Id	Reported	Reading
Gage height	Gage height	02_00065	0.00 ft	

- ✓ Adna Gage is a USGS gage jointly funded through cooperative program with Lewis County Public Works



Basin Gages Website --

https://www.ezview.wa.gov/site/alias_1492/34856/gages_stations.aspx#Listing

Airport Levee



Photo Courtesy of The Chronicle

Date of Funding Approval -- 08/10/2012.

Budget -- \$1,239,829.00

Description -- Phase I (levee base improvement) involves expanding the inside width of the existing levee without increasing levee elevation or causing any measurable adverse impact or effect. Phase I will improve the base of the levee and result in an additional 32 acre feet of fill inside the existing levee. The fill required for this levee project is less than one percent of the overall airport property volume and a much smaller percentage of the total flood volume in the twin cities area. Since the fill is behind the levee it will not block flows and will not create any measurable increase in upstream or downstream flooding based on the HEC-RAS hydraulic model for the basin. Project (Phase I) is planned to be completed Summer 2014.

Flood Hazard Reduction Benefits -- Completion of Phase I at the Airport will provide immediate and critical additional flood protection to the airport facility and to the most active complex of retail stores in Lewis County which generate approximately \$550,000 per day in sales income with significant accompanying tax revenue. This improvement will provide a level of protection against flooding up to events similar to the one experienced in 2007 which was the fourth highest flood of record at the Centralia Mellen Street gauge.

Project Website --

https://www.ezview.wa.gov/site/alias_1749/overview/34407/overview.aspx

I-5 Mellen Street to Blakeslee Junction

<http://www.wsdot.wa.gov/projects/i5/mellentograndmound/phase3/>